INDEX TO VOLUME XIV

New species in blackface type

A, bacterial disease of broomcorn and sorghum, 48; bakery infection with Monilia sitophila, 346; chemical and pathological study of decay of the xylem of the apple caused by Polystictus versicolor Fr., 114–118; disease on Amarantus caused by Choanephora cucurbitarum (B. & Rav.) Thaxter, 490–494; flagellate infection of milkweeds in Maryland, 54; Fusarium bulb rot of onion, 26; laboratory projection apparatus, 424–426; new downy mildew on soy bean, 28; sclerotial disease of cultivated Delphinium, 31; Sclerotium disease of yautia, 29; study of Bacillus aroideae Townsend, the cause of a soft rot of tomato, and B. carotovorus Jones, 460–477

Abies, balsamea, pathological anatomy of, 345; Peridermium pycnoconspicuum on needles of, 350; Stereum sanguinolentum causing "sapin rouge," 349–350

Abstracts, of papers presented at the seventh annual meeting of the Pacific Division of the American Phytopathological Society, Los Angeles, California, Sept. 16 to 21, 1923, 119–125; of papers presented at the fifth annual meeting of the Canadian Division of the American Phytopathological Society, Queens University, Kingston, Ontario, December 20, 21, 1923, 345–350; of papers for winter meeting, 435–436

Abutilon, Botrytis cinerea on, 154

Acanthorhynchus vaccinii, on Vaccinium macrocarpum, 102–107; on Vaccinium oxycoccus, 107; on V. vitis-idaea, 107

Acer rubrum, 140

Achyrodes, aureum (L.) Kuntze, a host for many rusts, 36

Acrostalagmus caulophagus, attacking raspberries, 348

Adams, J. F., The use of sulphur as a fungicide and fertilizer for sweet potatoes, 411–423

Aecidium, caulicola, 69; nigro-cinctum, 69; vignae, 69

Agave, Botrytis cinerea on, 154

Alfalfa, stem nematode in California, 125; wilt of, measuring water interference by, 580–584

Allen, Ruth F., Cytological evidence of physiologically distinct forms in Puccinia graminis tritici, 39

Allistephus, Botrytis cinerea on, 154

Allium, white rot of, 315–322

Almond, scab in California, 125

Alnus glutinosa, infected by Taphrina tosquinetii, 217

Alternaria, rot of lemons, 120; sp. on Vaccinium macrocarpum, 102–107

Amarantus, blitum attacked by Choanephora cucurbitarum, 490–494; blitum diseased by Cystopus bliti, 490; spinosus attacked by Choanephora cucurbitarum, 492

Amelanchier, Botrytis cinerea on, 154

American Phytopathological Society, abstracts of papers presented at the fifteenth annual meeting, Cincinnati, Ohio, December 27, 1923, to January 1, 1924, 24–66; report of the fifteenth annual meeting, 200–210; report of the treasurer for 1923, 201, 202; Oberly memorial fund of, 202; membership, 203; report of the business manager of Phytopathology for 1923, 203–205; report of the editor-in-chief of Phytopathology, 205, 206; report of advisory board, 206; special research and investigational projects, 207, 208; crop protection institute, 208; crown gall report, 208; resolutions, 208; annual meeting of, 535

American foreign plant quarantines (title only), 119
Amorpha fruticosa, Puccinia amorphae on, 406
Amorphophallus, Botrytis cinerea on, 154
An, abortive sporophore of Sclerotium rolfsii, 37; apple stem tumor not crown gall, 29, 30; early report on infectious chlorosis, 198, 199; investigation of clover root rot, 63; undescribed imperfect fungus associated with wheat foot-rot in Oklahoma, 34; unusual infection of Polyporus schweinitzii, 588
ANDERSON, H. W., Notes on the Nematospora disease of lima beans, 31
ANDERSON, J. P., Botrytis cinerea in Alaska, 152–155
ANDERSON, P. J., Susceptibility of species of Allium toonion smut, 26; Overwintering of tobacco wildfire bacteria in New England, 132–139; Controlling onion smut with kalimat, 569–574
Angular leaf-spot and wildfire infection of tobacco plant beds by spitting, 51
Anixropsis stercoraria, 408
Antirrhinum, Botrytis cinerea on, 154; majus, host for Puccinia antirrhini, 283
Aphids, as disease carriers on potato, 526–528, 530
Apium, Botrytis cinerea on, 154
Apple, blotch, 60; blotch, pathologic histology of, 558–568; decay of xylem by Polystictus versicolor, 114–118; host of Phyllosticta solitaria, 558–568; inoculations with soft rot bacteria, 463; measles, 289–314; morphological studies on the injury caused by Ceresa bulbalis, 334–335; Myxosporium corticola on, 329–333; Phyllosticta leaf spot, fruit blotch and canker of, its etiology and control, 234–237; scab, 36; Sphaeropsis malorum on, 329–333; stem tumor of, 29
Aralia caudata, root rot and wilt of, 124; Sclerotinia libertiana on, 124; Verticillium albo-atrum on, 124
Araujia angustifolia, flagellate in, 148
Artemisia, Botrytis cinerea on, 154
ARTHUR, JOHN M., see WHETZEL, H. H.
ARTSCHWAGER, ERNST, Review of H. Morstatt, Einfuhrung in die Pflanzenpathologie, 127, 128
Asclepias syriaca, flagellate in, 146
Asparagus, Botrytis cinerea on, 154; leaf and stem spots in California, 125
Aspergillus, flavus, 408; fumigatus, 408; glaucus, 408; niger, 408; oryzae, 408; wentii, 408
Aster, China, diseases of, 64; yellows of, 54
ATANASOFF, D., Methods of studying the degeneration diseases of potato, 521–533
Athyrium, Botrytis cinerea on, 154
Aucuba mosaic, on potato, 519
Avena sativa, Puccinia coronata on, 406

Bacillus, amylovorus, control of, 478; aroideae on tomato fruits, 451–459; a study of aroideae, 460–477; atrosepticus, cultural study of, 474; carotovorus in relation to soft rot of tomato, 460–477; carotovorus, 481; melonis, 460, 461; morulans, relation to curly leaf of beet, 90; oleraceae as a soft rot producer, 461; omnivorus as the cause of soft rot, 461; phytophthorus, cultural study of, 474; solanacearum on tobacco, 406
Bacteria associated with celery yellows, 435
Bacterial, blight of beans, 1–7; blight of bean on Strophostyles helvola, 341; canker of poplar, 140; slime disease of lettuce, 122; soft rot of tomato, 457–459
Bacterium, andropogoni, 48; angulatum, oxygen requirement of, 474; campestre, 24; flaccumfaciens, 27; phaseoli, 27; phaseoli on Strophostyles helvola, 341; solanacearum, 9, 490; tabacum, 134; tabacum, host plants of, 175–180; tabacum, overwintering of, 181; tabacum, seed treatment for, 181–187; tabacum, oxygen requirement of, 474; tumefaciens, 172; tumefaciens, water flow interference by, 580–584
Bajam, see Amarantus blitum.
Banana, diseases of, 11; inoculations with soft rot bacteria, 463
Barberry eradication, 40; the use of simultaneous surveys in, 359–362
BARKER, H. D., and H. K. HAYES, Rust resistance in timothy, 363–371

Barley, a new disease of in California, 124; host of Ustilago hordei, 537–557; hot water treatment for covered smut of, 552–554

BARNUM, CLYDE C., The production of substances toxic to plants by Penicillium expansum Link, 238–243

BARTHOLOMEW, E. T., Alternaria rot of lemons, 120

———, H. J. WEBBER, H. S. FAWCETT and H. H. P. SEVERIN, Ecological factors influencing the distribution and severity of insect pests and plant diseases (title only), 119

BEACH, W. S., Some new methods and results in the control of lettuce diseases with formaldehyde, 28

Bean, bacterial blight, 341; wilt (Bacterium flaccumfaciens Hedges). Further studies, 27

Beans, bacterial blight of, 27; susceptibility to bacterial blight, 1–7; see Phaseolus vulgaris

BEATTIE, R. KENT, American foreign plant quarantines (title only), 119

Beet, effect of rogueing on curly top of, 119; inoculations with soft rot bacteria, 462; leaf hopper, see Eutettix tenella; Progress report on curly top of, 122; Rhizoctonia rot in California, 125; curly leaf experiments, 80–93

Begonia, Botrytis cinerea on, 154

Bellis, Botrytis cinerea on, 154

BERKELEY, G. H., see A. HUNTER.

BERKELEY, G. H., and A. B. JACKSON, Blue stem of red and black raspberry, 347, 348; Strawberry black root, 348; Raspberry diseases, 347

Betula alba var. papyrifera, 141

Biological and cultural studies of Exoascaceae. I. Exoascus deformans (Berk.) Fuckel, 35; II. Exoascus mirabilis Atkinson, 35

BISBY, G. R., Potato seed treatment tests in Manitoba, 58

Black, leg of crucifers, 24; root of strawberry, 348; rot of cauliflower, 24; rot of crucifers, 24

Blight, pear, 478–480; of chestnut in Ontario, 345; western yellow, of tomato, 120

Blister rust, of white pine in Canada, 347

Blotch, of apple, 558–568

Blue, berries, attacked by Botrytis cinerea, 152; stem of raspberry in California, 125; stem of red and black raspberry, 347, 348

Bordeaux mixture, for controlling grape rust, 171; for tomato soft rot, 458

Botrytis, cinerea on various hosts in Alaska, 152–155; cinerea causing wine grape fruit rot in California, 125; metabolism in, 349

BOYCE, J. S., Investigative work on white pine blister rust in the Pacific Northwest for 1922, 124; An unusual infection of Polyporus Schweinitzii Fr., 588

Brassica, Botrytis cinerea on, 154

Bremia lactucae, mildew of lettuce, 122

BRENTZEL, W. E., Further investigations on the pasmo disease of flax, 48

BRICK, CARL, notice of death, 587

Brine, an early treatment for wheat smut, 198–199

British, Association for the Advancement of Science, 288; Columbia, horticulturists, entomologists and pathologists to meet in, 401

BROWN, NELLIE A., An apple stem tumor not crown gall, 29

Brown, bast of Hevea, 9; rot, manner of infection of peach twigs by, 427–429

BRUYN, HELENA L. G. DE, The Phytophthora disease of lilac, 503–517

Bunt, of wheat, 437–450

BURKHOLDER, WALTER H., Varietal susceptibility among beans to the bacterial blight, 1–7

BUTLER, LOWELL F., Celery yellows, 435

Cabbage, a host of Bacillus aroideae, 458; Fusarium yellows of, in California, 125; yellows, 24; yellows, measuring water flow interference by, 582–584

Cacao, diseases of, 11; Phytophthora faberi on, 11

Caladium esculentum, inoculations of with soft rot bacteria, 467
Calceolaria, Botrytis cinerea on, 154
Calendula, Botrytis cinerea on, 154
California, new diseases in, 125
Calla, Botrytis cinerea on, 154, 155; rot caused by Bacillus aroideae, 454, 458, 467
Campanula, Botrytis cinerea on, 154
Cantaloupe, host for Bacillus aroideae, 457
Capsicum sp. attacked by Choanephora cucurbitacearum, 490
Carrot, decay of, 323; host for Bacillus aroideae, 458; see Daucus carota.
CARSNER, EUBANKS and C. F. STAHL, The relation of Chenopodium murale to curly-top of the sugar beet, 57; Progress report on curly-top of the sugar beet, 122
Cauliflower, black-rot on, 24; host for Bacillus aroideae, 458
Celery, inoculations with soft rot bacteria, 462; yellows, bacteria associated with, 435
Cellular interaction between host and parasite, 575–579
Cenangium abietis, pruning western yellow pine, 336, 337
Cercospora, asparagus leaf and stem spot caused by, 125; canescans, 351; cruenta causing a leaf spot of Phaseolus, 351; dolichi, 351; lussoniensis on Phaseolus aureus, 356; vignae, 351
Ceresa bulbalis, causing injury on apple, 334, 335
Chamaenerion, Botrytis cinerea on, 154
Cheiranthus, Botrytis cinerea on, 154
Chenopodium murale, 123
Cherry leaf spot, 36
Chestnut blight, in Europe, 52; in Ontario, 345
Chlorosis, infectious, early report on, 198, 199
Choanephora, americana, 490; cucurbitacearum causing disease of Hibiscus Rosa-sinensis, Cucurbita pepo and Capsicum, 490; cucurbitarum, attacking Amaranthus blitum, 490–494; cucurbitarum attacking Amarantus spinosus, 492; cucurbitarum attacking Synedrella nodiflora, 492; cucurbitarum attacking Eleutheranthera ruderalis, 492; dichotoma, 490; infundibulifera, 490, 491
CHRISTENSEN, J. J., see HAYES, H. K.
Chrysanthemum, Botrytis cinerea on, 154
Cineraria, Botrytis cinerea on, 154
Citrus, Botrytis cinerea on, 154
Cladosporium, carpophilum causing almond scab in California, 125; herbarum on salmonberry, 153
CLAYTON, E. E., A progress report on black-rot investigations with special reference to cauliflower on Long Island, 24; Control of black-rot and black-leg of cruciferous crops by seed and seed bed treatment, 24
CLOKEY, I. W., see DIETZ, S. M.
Clover, attacked by Gloeosporium caulivorum, 347; diseases of, 62, 63; powdery mildew of, 347; rusts of, 33
Club root of cabbage, 25
Coconut, diseases of, 12
Coleus, Botrytis cinerea on, 154
Colletotrichum lindemuthianum, 1.
COLLEY, R. H., A laboratory projection apparatus, 424–426
Colloidal sulphur as a spray material, 61, 62
Common, molds of corn seed in relation to yield, 46; mosaic on potato, 519
Comparative efficiency of formaldehyde, copper-carbonate dust and sulphur dust in controlling smuts in hulled oats, 42
Congress, Third Pan-American Scientific, 401
Conjugation in the aecium of Dicaeoma distichlidis, 33, 34
Control, of pear blight, 478–480; of black-rot and black-leg of cruciferous crops by seed and seed bed treatments, 24, 25; chamber for plant environmental studies, 64, 65
Controlling white pine blister rust in the Northeastern States, 53; onion smut with kalimat, 569–574
COOK, MEL T., Root diseases of sugar cane in Porto Rico, 59
——— and TORO, RAFAEL A., A Sclerotium disease of yautia, 29

COONS, G. H., Varietal resistance of winter wheats to Tilletia levis, 38; Tests of dehydrated culture media, 65
Coreopsis, Botrytis cinerea on, 154
Corn, selfed strains and resistance to smut, 268–280; F, crosses and resistance to smut, 278; relation of yield and percentage of smut infection, 276–277; resistant to rust, Puccinia sorghi, 47, 48; diseases of, 12, 45, 46, 47; seed treatments of, 44; smut, 268–280
Coryneum, negundinis, 345; twig blight of Manitoba maple, 345
Cotton, anthracnose of, 52
COULSON, J. G., see DICKSON, B. T.
Covered smut of barley, see Ustilago hordei
Cowpeas, rust of, 67
CRAIGIE, J. H. and WM. H. WESTON, JR., Observations on malformed tassels of teosinte plants infected with downy mildew, 49
Cranberry, see Vaccinium macrocarpum
Crinkle on potato, 519
Cronartium ribicola, 52, 53, 404, 406, 407
Crop injury resulting from magnesium oxide dust, 108–113
Crown-gall, inspection for, 172, 173; relations of temperature and moisture to, 30; resistance in Prunus, 120; measuring water flow interference by, 580–584
Cucumber, host for Bacillus aroideae, 458
Cucumis, Botrytis cinerea on, 154
Cucurbita pepo attacked by Choanephora cucurbitacearum, 490
Culture media test tube filler, 342
Cultures, longevity of, 408; of Exoascus deformans, 217–233
Cuphea, Botrytis cinerea on, 154
Curl, on potato, 518
Curly, leaf transmission experiments, 80–93, 123; top of beets, effect of rogueing on spread of, 119
Cyrtomium, Botrytis cinerea on, 154
Cystopus bliti on Amarantus blitum, 490
Cytological, evidence of physiologically distinct forms in Puccinia graminis tritici, 39, 40; studies on tobacco mosaic, 55, 56
Cytospora, batatis, sulphur for control of, 411; canker of poplar, 140; chrysosperma (Pers.) Fr., 140
Dahlia, Botrytis cinerea on, 154
DANA, B. F., see HUNGERFORD, CHAS. W.
DARKER, G. D., see FAULL, J. H.
Daucus carota attacked by Sclerotinia intermedia, 323–327
DAVIS, W. H., Summary of investigations on clover rusts, 33; Infection produced by the spores of Ustilago striaeformis, (Westd.) Niessl., 244; Spore germination of Ustilago striaeformis, 251–267
DAY, L. H., Experiments on control of cankers of pear blight, 478–480
Decay, of Douglas fir due to Poria incrassata, 199
Delphinium, Sclerotium on, 31
Dematium, sp. on Vaccinium macrocarpum, 102–107; pullulans on peach twigs, 227
Dianthus, Botrytis cinerea on, 154; caryophyllus, Uromyces caryophyllinus on, 406
DICKSON, B. T., Mosaic studies IV, 346
———, R. SUMMERBY, AND J. G. COULSON, Smut control experiments in hulless oats during 1923, 350
DICKSON, JAMES G., Control chambers for plant environmental studies, 64; see JOHNSON, A. G.
———, SOPHIA ECKERSON AND KARL P. LINK, Studies on predisposition of wheat and corn to seedling blight caused by Gibberella saubinetii, 34
DIETZ, S. M., Epidemiology studies with Puccinia coronata Corda, 41
——— AND I. W. CLOKEY, Achyrodes aureum (L.) Kuntze, a host for many rusts, 36
Dimorphotheca, Botrytis cinerea on, 154
Diplodia, natalensis, influence of time and temperature on growth of, 119; zeae, 47
Diseases, in plants, equipment and methods for studying the relation of soil temperature to, 384–397; of banana, 11; of cacao, 11; of coconut, 12; of corn, 12; of peanut, 12; of pepper, 11; of potato, 12; degeneration, of potato, 518,

519, 521–533; of quinine, 12; of sugar cane, 9, 10; of tobacco, 10.
Disinfectants, new seed, 43.
Disinfection of tobacco seed against wildfire, 50, 51
Dolichos lablab, host for Uromyces vignae, 71; host for Uromyces appendiculatus, 71
DOOLITTLE, S. P., AND M. N. WALKER, Experiments on the control of cucurbit mosaic, 56
Dothichiza populea, 140
Douglas fir, see Pseudotsuga taxifolia
DRAYTON, F. L., Report of plant disease survey for Canada, 1923, 346, 347
DUNGAN, G. H., see J. R. HOLBERT
DUNN, MARIN S., The microloop: A rapid method for isolating single spores, 338–340
DURRELL, L. W., 536
Dusting, recent advances in methods, 121
Dutch East Indies, plant pathology in, 8–23

Echinopanax, Botrytis cinerea on, 154
ECKERSON, SOPHIA H., see DICKSON, JAMES G.
Ecological factors influencing the distribution and severity of insect pests and plant diseases, 119
Effect, of the mercuric chloride treatment for maggot on Rhizoctonia and clubroot of cabbage, 25; of late planting on the bacterial blight of beans, 27; of rogueing on spread of curly top in beets, 119; of salt and hydrogen-ion concentration upon the growth and structure of certain bacteria and moulds, 348
Eggplant, host for Bacillus aroideae, 457; see Solanum melongena.
Eleutheranthera ruderalis, 492
ELLIOTT, CHARLOTTE, AND ERWIN F. SMITH, A bacterial disease of broomcorn and sorghum, 48
ELLIOTT, JOHN ASBURY, biographical sketch and portrait, 129–131
ELMER, OTTO H., Mosaic cross-inoculation studies, 55
Endothia parasitica, in Ontario, 345; not found in Bruges by Belgian authorities, 535
Entomologists, horticulturists and pathologists to meet in British Columbia, 401
Ephelis mexicana Fr., Balansia hypoxylon (Pk.) Atk. on sandbur, (Cenchrus echinatus L.), 66
Epidemiology studies with Puccinia coronata Corda, 41
Epitrix, sp. on potato, 524; cucumeris, 346
Equipment and methods for studying the relation of soil temperature to disease in plants, 384–397
Erigeron, Botrytis cinerea on, 154
Erwinia aroidea (Townsend) C. S. A. B., rot of tomato fruits, 454
Erysiphe graminis, 48
Escholscholtzia, Botrytis cinerea on, 154
Euphorbia, Botrytis cinerea on, 154; pilulifera, flagellate in, 146
European canker of poplar, 140
Eutettix tenella, transmitting curly leaf, 80–93
Exoascus, decipiens, 126; deformans, 35; deformans, biological and cultural studies of, 217–233; mirabilis, 35; mirabilis causing red plum curl, 126; tosquinetti, 217
Experiments, in oat smut control in 1923, 346; in control of cankers of pear blight, 478–480; on the control of cucurbit mosaic, 56; to show the effects of certain seed treatments on corn, 44, 45; with dusting and spraying for the control of tobacco wildfire in seedbeds, 50; with inoculated sulphur for scab control, 57
EZEKIEL, WALTER N., Strains of the brown-rot fungus, Sclerotinia americana, 32; see NORTON, J. B. S.

FANT, G. W., The manner of infection of peach twigs by the brown-rot fungus, 427–429
Farfugium, Botrytis cinerea on, 154
FARIS, JAMES A., Physiological specialization of Ustilago hordei, 537–557

FARR, CLIFFORD, H., Cellular interaction between host and parasite, 575–579

FAULL, J. H., AND G. D. DARKER, The aecial stage of Hyalopsora aspidiotus (Peck) P. Magnus, 350

FAULL, J. H., AND MISS IRENE MOUNCE, Stereum sanguinolentum as the cause of "Sapin Rouge" or red heart of balsam, 349, 350

FAWCETT, H. S., Influence of time and temperature on the rate of growth of certain fungi, 119; see BARTHOLOMEW, E. T.

FENTON, F. A., see GOODWIN, J. C.

FILLER, E. C., Controlling white pine blister rust in the Northeastern States, 53

Filter cylinders, a method of increasing the efficiency of, 585, 586

Fir, Douglas, decay of, 119

Flagellates in milkweed, 54; in the latex of milkweed, 146

Flea beetles as disease carriers on potato, 526

Fluometer, for measuring water flow interference by certain diseases, 580–584

Fomes pinicola, physiological specialization of, 119

FORD, E. F., see POSEY, G. B.

Foreign papers, publication of, 401

Forest pathology, some problems in, 345

Formaldehyde, as control of lettuce diseases, 28; for onion smut, 569–574

FRASER, W. P., "Take-all" of wheat in western Canada, 347

———, AND P. M. SIMONDS, Seed treatment for smut control, 347

FREEMAN, E. M., AND L. W. MELANDER, Simultaneous surveys for stem rust; a method of locating sources of inoculum, 40; Simultaneous surveys for stem rust, 359–362

FROMME, F. D., The rust of cowpeas, 67–79

Fuchsia, Botrytis cinerea on, 154

Fungicidal treatments for the control of sorghum kernel smut, 44

Fungous diseases of the China aster, 64

Funkia, Botrytis cinerea on, 154

Further, investigations on the pasmo disease of flax, 48; results in the inheritance of immunity to potato wart, 59; studies on new seed treatments, 43, 44

Fusarium, angustatum, on onion roots, 212; cepae, 27; coeruleum, 409; conference, University of Wisconsin, 435; conglutinans, 24, 408, 576; conglutinans, water flow interference by, 580–584; **cromyophthoron** n. sp. on onion roots, 212; cromyophthoron, effect of hydrogen-ion concentration on the extracellular pectinase of, 481–489; culmorum on onion roots, 212; culmorum in Oregon, its varieties and strains that cause disease of cereals and grasses, 49; culmorum var. leteius, a cause of disease in cereals and grasses, 50; discolor on onion roots, 212; discolor, 408; discolor var. sulphureum on onion roots, 212; discolor var. sulphureum, 409; gibbosum, 408; isolated from western yellow blight of tomatoes, 121; lini, 576; **loncheceras** n. sp. on onion roots, 213; loncheras var. **microsporon** on onion roots, 213; longevity of cultures of, 408; lutulatum on onion roots, 211; lycopersici, behavior of tomatoes and wilt disease in California, 121; lycopersici Sacc., cause of wilt of tomatoes, 188–197; lycopersici, interaction between it and tomato, 575–579; malli on onion roots, 211; martii on onion roots, 212; martii phaseoli, 1; moniliforme on onion roots, 212; niveum, 408; oxysporum, 238, 408; oxysporum on onion roots, 211; oxysporum var. **longius** on onion roots, 212; oxysporum var. **resupinatum** on onion roots, 212; orthoceras var. **triseptatum** on onion roots, 212; radicicola on onion roots, 212; redolans on onion roots, 211; **rhizochromatistes** n. sp. on onion roots, 212; rhizochromatistes var. **microsclerotium** n. v. on onion roots, 213; **sclerostromaton** n. sp. on onion roots, 213; solani, 238, 409; species of, isolated from onion roots, 211–216; trichothecoides, 409; vasinfectum, 408; wilt in California, behavior of

certain varieties of tomatoes towards, 188–197; yellows in California, 125
Fusicoccum putrefaciens, on Vaccinium macrocarpum, 102–107; on Vaccinium oxycoccus, 107; on Vaccinium Vitis-Idaea, 107.

GARDNER, MAX W., A native weed host for bacterial blight of bean, 341
Geranium, Botrytis cinerea on, 154
Gibberella saubinetii, 34
GIDDINGS, N. J., A laboratory convenience, 342
GILBERT, H. C., see HENRY, A. W.
Gladiolus, Botrytis cinerea on, 154; diseases of, 63; inoculations of with soft rot bacteria, 467.
Gloeosporium caulivorum on clover, 347
Glomerella cingulata vaccinii on Vaccinium macrocarpum, 102–107.
GLOYER, W. O., The effect of late planting on the bacterial blight of beans, 27; Fungous diseases of the China aster, 64
————, AND H. GLASGOW, Effect of the mercuric chloride treatment for maggot on Rhizoctonia and club-root of cabbage, 25
GLASGOW, H., see GLOYER, W. O.
Godetia, Botrytis cinerea on, 154
GODFREY, G. H., Present status of stem and bulb nematode in America, 62
GOODWIN, J. C., AND F. A. FENTON, Morphological studies on the injury to apple caused by Ceresa bubalis, 334, 335.
Grape, fruit rot in California, 125; rust in Florida, 170, 171.
Grevillea, Botrytis cinerea on, 154
GRIFFEE, FRED., see HAYES, H. K.
GRIFFITHS, MARION A., Physiological studies on flag smut of wheat, 39
Grossularia, Botrytis cinerea on, 154
GUBA, E. F., Phyllosticta leaf spot, fruit blotch and canker of the apple; its etiology and control, 234–237; pathologic histology of apple blotch, 558–568
Guignardia, aesculi, 235; bidwellii, 235; vaccinii on Vaccinium macrocarpum, 102–107; vaccinii, 234
HARTGE, LENA, see HOTSON, J. W.
HARTLEY, CARL, AND R. D. RANDS, Plant pathology in the Dutch East Indies, 8–23
HASKELL, R. J., Abstracts of papers for the winter meeting, 435, 436; British Association for the Advancement of Science, 288; Report of the Treasurer for 1923, 201, 202; Report of Business Manager of Phytopathology for 1923, 203–205; Report of fifteenth annual meeting, 200–210.
HAYES, H. K., see BARKER, H. D.
HAYES, H. K., E. C. STAKMAN, FRED GRIFFEE, AND J. J. CHRISTENSEN, Reactions of selfed lines of maize to Ustilago zeae, 268–280
HEDGES, FLORENCE, Bean wilt (Bacterium flaccumfaciens Hedges). Further studies, 27; Soy bean pustule. Comparison studies with Bacterium phaseoli sojense Hedges and Bacterium phaseoli E. F. S., 27
Helitropium, Botrytis cinerea on, 154
Helminthosporium, californicum causing disease of barley in California, 124; gramineum, 42
Hemileia, 9
HENRY, A. W., AND H. C. GILBERT, Minnesota sunflower diseases in 1923, 64
Herpetomonas elmassiani, 148, 149, 150
Heterosporium syringae attacking Syringa vulgaris, 505
Hevea, brown bast of, 9
Hibiscus, Botrytis cinerea on, 154; Rosa sinensis attacked by Choanephora cucurbitacearum, 490
Hippeastrum, Botrytis cinerea on, 154
HO, WM. T. H., see MELHUS, I. E.
HOLBERT, J. R., see REDDY, CHAS. S.
HOLBERT, J. R., BENJAMIN KOEHLER, AND G. H. DUNGAN, Studies on the Diplodia disease of corn, 47
Holland, institution for pathology and economic entomology in, 534
HOLMES, FRANCIS O., A flagellate infection of milkweeds in Maryland, 54; Herpetomonad flagellates in the latex of milkweed in Maryland, 146–151

Horticulturists, entomologists and pathologists to meet in British Columbia, 401

Host plants of Bacterium tabacum, 175–180

Hosta, Botrytis cinerea on, 154

HOSTERMAN, GUSTAV, AND MARTIN NOACK, Lehrbuch der pilzparasitären Pflanzenkrankheiten mit besonderer Berucksichtigung der Krankheiten Gärtnerischer Kulturgewächse, review of, 534, 535

HOTSON, J. W., AND LENA HARTGE, A disease of tomatoes caused by Phytophthora **mexicana** sp. nov., 121

Hot water treatment of narcissus bulbs for Tylenchus dipsaci, 495–502

HOWITT, J. E., Coryneum twig blight of Manitoba maple, 345; Results of experiments to prevent potato Rhizoctonia, 349

————, AND R. E. STONE, Experiments in oat smut control in 1923, 346

HUBBARD, CHARLES, see VALLEAU, W. D.

Humidity and temperature, relation of tomato leaf spot, 156–169

HUNGERFORD, C. W., Horticulturists, entomologists and pathologists to meet in British Columbia, 401

————, AND B. F. DANA, Witches' broom of potatoes in the Northwest, 372–383

————, AND J. M. RAEDER, Mosaic and leaf roll of potatoes in Idaho, 123

HUNTER, A., AND G. H. BERKELEY, Metabolism in Botrytis, 349

HUTTON, LYNN D., see PETRY, E. J.

Hyacinth, inoculations with soft rot bacteria, 467

Hyalopsora aspidiotus, connected with Peridermium pycnoconspicuum, 350; aecial stage of, 350

Hydrangea, Botrytis cinerea on, 154

Hydrogen-ion concentration, effect of, on the extracellular pectinase of Fusarium eromyophthoron, 481–489

Hypoxylon, holwayii, 144; popuar canker (title only), 53; pruinatum (Klotsche) Cke., 143, 144, 145.

Iberis, Botrytis cinerea on, 154

Idaho, leaf roll of potatoes in, 123

Ilex verticillata, 140

Illinois, climatic influence on wheat rust, 94–100

Infection-court in radish black-root, 66; produced by the spores of Ustilago striaeformis (Westd.) Niessl., 244

Influence of time and temperature on the rate of growth of certain fungi, 119

Insect transmission of aster yellows, 54

Inspection for crown-gall, 172, 173

Intervenal mosaic on potato, 519

Iris, inoculations of with soft-rot bacteria, 467, 468

Irish potatoes as host for Bacillus aroideae, 457

JACKSON, A. B., see BERKELEY, G. H.

JACZEWSKI, DR. A., Note on celebration of anniversary, 244

JAGGER, IVAN C., Immunity to mildew (Bremia lactucae Reg.) and its inheritance in lettuce, 122

Java gum disease of sugar cane, 587

JEHLE, R. A., F. W. OLDENBURG AND C. E. TEMPLE, Relation of internal cob-discoloration to yield in corn, 46

JOCHEMS, S. C. J., see PALM, B. T.

JOHNSON, A. G., R. W. LEUKEL, AND J. G. DICKSON, New seed treatments for controlling stripe disease of barley, 42

JOHNSON, H. W., see STOVER, W. G.

JOHNSON, JAMES, Experiments with dusting and spraying for the control of tobacco wildfier in seed-beds, 50; see RAWLINS, T. E.

————, AND H. F. MURWIN, Disinfection of tobacco seed against wildfire, 50

————, C. M. SLAGG, AND H. F. MURWIN, Host plants of Bacterium tabacum, 175–180

JOHNSTON, C. O., Wheat bunt investigations in Kansas, 37; see MELCHERS, L. E.

————, AND L. E. MELCHERS, Fungicidal treatments for the control of sorghum kernel smut, 44

JONES, L. K., see KEITT, G. W.
June grass, see Poa pratensis

Kale, Fusarium yellows in California on, 125
Kalimat, for onion smut, 569–574
KEITT, G. W., AND L. K. JONES, Seasonal development and control of apple scab and cherry leaf spot in relation to environment, 36; Sepal infection in relation to the seasonal development and control of apple scab, 36
KEMPTON, F. E., Progress in barberry eradication, 40
KENDRICK, JAMES B., Infection-court in radish black-root, 66
KIRBY, R. S., Comparative efficiency of formaldehyde, copper-carbonate dust and sulfur dust in controlling smuts in hulled oats, 42
KOEHLER, BENJAMIN, see HOLBERT, J. R.
Kohl-rabi, as host for soft rot bacteria, 462
KULKARNI, G. S., Resistance of sorghum to loose and covered smuts, 288
KUNKEL, L. O., Insect transmission of aster yellows, 54

Laboratory facilities at Naples, Italy, 536
Lactuca, Botrytis cinerea on, 154
Lantana, Botrytis cinerea on, 154
Latex, of Euphorbia pilulifera, flagellate in, 146; of milkweed, flagellates in, 146
Lathyrus, Botrytis cinerea on, 154
LAWRENCE, JOHN., On an early report on infectious chlorosis, 198, 199
LEACH, JULIAN G., Spraying vs. dusting for potatoes, 57
———, AND R. C. ROSE, Experiments with inoculated sulphur for scab control, 57
———, AND J. L. SEAL, Powdery mildew of raspberries, 61
Leafhopper, cause of curly leaf of beet, 80
Leaf roll, potato in Idaho, 123; marginal, on potato, 519; of potato, 519, 521
Leaf, scald, of sugar cane, 587
Leaf spot on tomato, 156–169; of Phaseolus aureus, 351
LEE, H. ATHERTON, see NORTH, D. S.
LEHMAN, S. G., AND FREDERICK A. WOLF, A new downy mildew on soy beans, 28
Lemons, Alternaria rot of, 120
LEONIAN, LEON H., On the physiology of the genus Phytophthora, 32
Leptinotarsa decemlineata, on potato, 524
Leptomonas bordasi, 148; davidi, 146, 148; elmassiani, 148
LESLEY, J. W., see SHAPOVALOV, MICHAEL
Lettuce, bacterial slime disease of, 122; mildew of, 122; inoculations with soft rot bacteria, 462
LEUKEL, R. W., Equipment and methods for studying the relation of soil temperature to diseases in plants, 384–397; see JOHNSON, A. G.; see TISDALE, W. H.
LEVINE, M. N., see STAKMAN, E. C.
Ligularia, Botrytis cinera on, 154
Lilac, see Syringa vulgaris
Linaria, Botrytis cinerea on, 154
LINK, KARL P., see DICKSON, JAMES G.
Lobelia, Botrytis cinerea on, 154
Loganberry, Mosaic of, 119
LONG, W. H., The self-pruning of western yellow pine, 336, 337
Longevity of cultures of Fusaria, 408–410
Loss of strength of mercuric chloride solutions for treating potatoes, 58
LUDWIG, C. A., Studies of anthracnose infection in cotton seed, 52
Lunularia, Botrytis cinerea on, 154
Lychnis, Botrytis cinerea on, 154
Lycopersicum, Botrytis cinerea on, 154

MACKIE, W. W., AND PAXTON, G. E., A new disease of cultivated barley in California caused by Helminthosporium **californicum** n. sp., 124
Magnesium oxide, crop injury resulting from, 108–113
MAINS, E. B., Notes on the life history of the snapdragon rust, Puccinia antirrhini Diet. & Holw., 281–287; Wheat resistant to mildew, Erysiphe graminis, 48
———, F. J. TROST AND G. M. SMITH, Corn resistant to rust, Puccinia sorghi, 47

MANNS, T. F., John Asbury Elliott, 129–131
MANVAL, W. E., Longevity of cultures of Fusaria, 408–410; The viability of uredospores, 403–407
Maple, Coryneum blight of, 345
Marginal leaf roll, on potato, 519
Massachusetts, Cranberry fungi in, 101
MASSEY, A. B., A study of Bacillus aroideae, Townsend, the cause of a soft rot of tomato, and B. carotovorus Jones, 460–477.
Matthiola, Botrytis cinerea on, 154
MAY, CURTIS, see STOVER, W. G.
MCCALLUM, A. W., Some problems in forest pathology, 345
MCCLINTOCK, J. A., Seed transmission of rootknot nematode resistance in the peach, 62
MCCULLOCH, LUCIA, Two bacterial diseases of gladiolus, 63
MCKINNEY, H. H., An undescribed imperfect fungus associated with wheat foot-rot in Oklahoma, 34; A method of increasing the efficiency of filter cylinders, 585–586
MCLEOD, C. H., The pathological anatomy of tissue produced in Abies blasamea following an attack of the spruce budworm, 345
Measles, apple, 289–314
Measuring water flow interference in certain gall and vascular diseases, 580–584
Medicago sativa L., Uromyces striatus on, 404
MELANDER, L. W., see FREEMAN, E. M.
MELCHERS, L. E., AND C. O. JOHNSTON, Second progress report on studies of corn seed germination and the prevalence of Fusarium moniliforme and Diplodia zeae, 45; and M. C. SEWELL, The rate of spread of wheat foot-rot in tillage plots in Kansas, 41; see JOHNSTON, C. O.
MELHUS, I. E., J. H. MUNCIE, AND WM. T. H. HO, Measuring water flow interference in certain gall and vascular diseases, 580–584
Melissa, Botrytis cinerea on, 154
Mercuric chloride on cabbage seedlings, 25
Metabolism in Botrytis, 349
METCALF, HAVEN, Observations on the Douglas fir canker (Phomopsis pseudotsugae Wilson) in Great Britain, 52; Chestnut blight in Europe (Endothia parasitica (Murr.) A. & A.), 52
Methods, and equipment for studying the relation of soil temperature to diseases in plants, 384–397; of studying the degeneration diseases of the potato, 521–533; permanent spirals for identification tags, 398
Methods, permanent spirals for identification tags, 398
Micrococcus populi, 140
Microloop, 338–340
Mildew, on lettuce, 122; on watermelon, 125
Milkweed latex, flagellates in, 146
Mimulus, Botrytis cinerea on, 154
Minnesota, sunflower diseases in 1923, 64
MIX, A. J., Biological and cultural studies of Exoascaceae. I. Exoascus deformans (Berk.) Fuckel, 35; Biological and cultural studies of Exoascus deformans, 217–233; Biological and cultural studies of Exoascaceae. II. Exoascus mirabilis Atkinson, 35
———, AND DOROTHY LEE VAUGHAN, The range of toleration of hydrogen-ion concentration exhibited by Fusarium tracheiphilum in culture, 63
Monarda fistulosa L., Puccinia menthae Pers. on, 406
Monilia sitophila, A bakery infection with, 346
Monilochaetes infuscans, sulphur for control of, 411
MONTEITH, JOHN JR., Relation of soil temperature and soil moisture to infection by Plasmodiophora brassicae, 25; Relative susceptibility of red clover to anthracnose and mildew, 62
Morphological studies on the injury to apple caused by Ceresa bulbalis, 334, 335
MORSTATT, H., Review of "Einfuhrung in die Pflanzenpathologie," 127, 128

Mosaic, and other systemic disorders of raspberries in the Pacific Northwest (title only), 119; Aucuba, on potato, 519; common, on potato, 519; cross-inoculation studies, 55; diseases, 55–67; disease of loganberry, 119; intervenal, on potato, 519; of Pisum sativum, 346; of potato, 521, 526; of potatoes in Idaho, 123; of raspberry, 347; of tobacco, 347, studies IV, 346

MOUNCE, IRENE, see FAULL, J. H.

MUNCIE, J. H., see MELHUS, I. E.

MURWIN, H. F., see JOHNSON, JAMES

Muskmelon, soft rot of, 460

Mysiphyllum, Botrytis cinerea on, 154

Myxosporium corticola of apple, and pear, 329–333

Naples, Italy, laboratory facilities at, 536

Narcissus, Tylenchus dipsaci on, 495–502

National Southeastern University of Nanking, China, 244

Nematodes, 62; on alfalfa in California, 125

Nematospora phaseoli, 31

Nepeta, Botrytis cinerea on, 154

Nephrolepis, Botrytis cinerea on, 154

New seed treatments for controlling stripe disease of barley, 42

Nicotiana, Botrytis cinerea on, 154

Nigredo vignae (Barel.) Fromme comb. nov., On cowpeas, 72; on Dolichos lablab, 71, 73; on Phaseolus truxillensis, 71, 73; on Vigna repens, 71, 73; on V. sesquipedalis, 71, 73; on V. sinensis, 71, 73; on V. vexillata, 73; on V. sp., 74

Nigrospora javanica, on wheat, 13

NOACK, MARTIN, see HOSTERMANN, GUSTAV

NORTH, D. S., AND H. ATHERTON LEE, Java gum disease of sugar cane identical to leaf scald of Australia, 587

NORTON, J. B. S., AND WALTER N. EZEKIEL, The name of the American brown-rot Sclerotinia, 31

Notes, on the Nematospora disease of lima beans, 31; on the climatic conditions influencing the 1923 epidemic of stem rust on wheat in Illinois, 94–100; on cranberry fungi in Massachusetts, 101–107

Oats, smuts, 42; Hull-less, smut control experiments in, 350; smut control in 1923, experiments in, 346

Observations, on malformed tassels of teosinte plants infected with downy mildew, 49; on the Douglas fir canker (Phomopsis pseudotsugae Wilson) in Great Britain, 52

Occurrence, of white rot of Allium (Sclerotium cepivorum Berk.) in Europe and America, 26

Oenothera, Botrytis cinerea on, 154

Oidium lactis, 348

OLDENBURG, F. W., see JEHLE, R. A.

OLSON, OTTO, see ORTON, C. R.

Oncopeltus fasciatus, suspected carrier of milkweed flagellate, 148, 149, 150

Onion, crown rot in California, 125; host for B. aroideae, 458; host for Sclerotium cepivorum, 315; smut, 347; smut of, controlled with kalimat, 569–574; species of Fusarium isolated from roots, 211–216

On the physiology of the genus Phytophthora, 32

Oospora lactis cause of watery-rot of tomato, 454

Ophiobolus cariceti, 41; on wheat, 347

Orchard grass, Dactylis glomerata, host of Ustilago striaeformis, 252

ORTON, C. R., and OTTO OLSON, Progress report upon the resistance of commercial strains of tobacco to root rot, 51; see WEISS, FREEMAN.

ORTON, W. A., An early report on infectious chlorosis, 198, 199

Overwintering of Bacterium tabacum, 132–139

Ovularia, syringae, identical with Phytophthora syringae, 506

Oxalis, Botrytis cinerea on, 154

PACK, DEAN A., Permanent spirals for tags, 398–400; Photographic method for measuring and recording morphological and physical characters of plants, 433–435

PALM, B. T., and S. C. J. JOCHENS, A disease on Amarantus caused by Choa-

nephora cucurbitarum (B. & Rav.) Thaxter, 490–494
Pan-American Scientific Congress postponed, 535
Papaver, Botrytis cinerea on, 154
Parsnip, host for B. aroideae, 458
Pathology, forest, Some problems in, 345
Pathological histology of apple blotch, 558–568
Pathologists, entomologists and horticulturists to meet in British Columbia, 401
PAXTON, G. E., see MACKIE, W. W.
Pea, root rot and blight of, 348, 349
Peach, studies of Exoascus deformans on, 217; twigs, manner of infection by brown rot fungus, 427–429
Peanut, diseases of, 12
Pear, blight, control experiments, 478–480; Myxosporium corticola on, 329–333; Sphaeropsis malorum on, 329–333
Pectinase, extracellular, of Fusarium cromyophthoron, 481–489
Pelargonium, Botrytis cinerea on, 154
Penicillium, spp., on Vaccinium macrocarpum, 102–107; expansum Link, the production of substances toxic to plants by, 238–243
PENNINGTON, L. H., Wind dissemination of aeciospores of Cronartium ribicola Fischer, 52
Pepper, see Capsicum annuum.
Peppers, sweet, as host for B. aroideae, 457; diseases of, 11
Peridermium pycnoconspicuum on Abies balsamea, 350
Permanent spirals for tags, 398–400
Peronospora sojae, 28
Peronoplasmopara cubensis, causing watermelon leaf mildew in California, 125
Personals, Carl Brick, 587; F. Dickson, 128; L. W. Durrell, 536 G. H. Godfrey, 343; A. Jaczewski, 244; John R. Johnston, 343; Arthur S. Rhoads, 128; Caroline Rumbold, 536; H. L. van de Sande-Bakhuijzen, 343; M. Shapovalov, 343; F. L. Stevens, 536; Minnie W. Taylor, 343; G. B. Traverso, 199; J. C. Walker, 343; H. W. Wollenweber, 343
Pestalozzia, guepini vaccinii on Vaccinium macrocarpum, 102–107
PETRY, E. J., and LYNN D. HUTTON, Conjugation in the aecium of Dicaeoma distichlidis, 33
Peziza sclerotiorum, On the name, 126
Phakospora vitis, 170
Phaseolus, aconitifolius, 7; acutifolius var. latifolius, 7; adenanthus host for Uromyces appendiculatus, 71; angularis, 7; anisotrichus, host for Uromyces appendiculatus, 71; atropurpureus host for Uromyces appendiculatus, 71; aureus, 7; leaf spot of, caused by Cercospora cruenta, 351–358; coccineus host for Uromyces appendiculatus, 71; disophyllus host for Uromyces appendiculatus, 71; lunatus, 7; host for Uromyces appendiculatus, 71; obvallatus host for Uromyces appendiculatus, 71; polystachyus host for Uromyces appendiculatus, 71; retusus host for Uromyces appendiculatus, 71; sp., Botrytis cinerea on, 154; truxillensis host for Uromyces vignae, 71; vulgaris host for Uromyces appendiculatus, 71
Philippine Islands, a leaf spot of Phaseolus aureus new to, 351
Phleum, pratense, rust resistance in, 363–371; host of Ustilago striaeformis, 252; infection of by spores of Ustilago striaeformis, 244
Phlox, Botrytis cinerea on, 154
Phlyctaena linicola, 48
Phoma, lingam, 24; uvicola, 234
Phomopsis pseudotsugae, 52; sp. on Vaccinium macrocarpum, 102–107
Photographic method for measuring and recording morphological and physical characters of plants, 433–435
Phycomyces, nitens, 408
Phyllosticta, congesta, 234; paviae, 234; leaf spot, fruit blotch and canker of the apple; its etiology and control, 234–237; solitaria, cause of leaf spot, fruit blotch and canker of apple, 234; solitaria, cause of apple blotch, 556–566; murrayae, 234
Phyllostictina, vaccinii, 234

Physalis, and cucurbit mosaic intertransmissible, 56; sp., 492

Physiological, specialization of Ustilago hordei, 537–557; in Fomes pinicola Fr., 119; studies on flag smut of wheat, 39

Physopella vitis, on grape, 170

Phytomonas phaseoli, 2

Phytopathological notes, 401; 433–436; 534

Phytopathology, and economic entomology in Holland, Institutions for, 534

Phytophthora, colocasiae, 14; disease of lilac, 503; faberi on cacao, 11; infestans, 506; infestans, germination of, 32; **mexicana**, sp. nov. Disease of tomatoes, 121; nicotianae, 51; nicotiana on tobacco in Java, 10; physiology of, 32; syringae on lilac, 503–517

Pinus, strobus, 141; resinosa, 141

Pisum, Botrytis cinerea on, 154; sativum, mosaic of, 346

Plant, disease survey for Canada in 1923, 346, 347; diseases in Japan, handbook (note on), 341; pathology in the Dutch East Indies, 8–23; quarantines, American foreign, 119

Plasmodiophora brassicae, 25

Plum, Red plum curl, 126

Poa, Botrytis cinerea on, 154; pratensis, host of Ustilago striaeformis, 252

Polyporus schweinitzii, an unusual infection of, 588

Polystictus versicolor, Decay of xylem of apple, 114–118

Poplar, see Populus.

Populus, balsamifera, 140, 141; grandidentata, 140, 141, 144; tremuloides, 140, 141, 142

Poria, cocos, developed on tuckahoe found attached to orange tree root, 35; inerassata, causing decay of Douglas fir, 119

PORTE, W. S., see PRITCHARD, FRED J.

Portulaca oleracea, 490

POSEY, G. B., and E. R. FORD, Survey of blister rust infection on pines at Kittery Point, Me., and the effect of Ribes eradication in controlling the disease, 53

Potato, aphids as carriers of disease on, 526, 530; crinkle, 519; curl, 518, 521; degeneration diseases of, 518–519, 521–533; diseases of, 12, 57–59; flea-beetles as carriers of disease on, 526–528, 530; leaf-roll, 519, 521; leaf-roll in Idaho, 123; marginal leaf-roll, 519; mosaic, 521, 518; mosaic, aucuba, 519; mosaic, common, 519; mosaic, intervenal, 519; seed treatment tests in Manitoba, 58; stipple-streak, 519; witches' broom of, in the Northwest, 373–383; see Solanum tuberosum

Potentilla, Botrytis cinerea on, 154

POVAH, ALFRED, Hypoxylon poplar canker, 53, 140–145

Powdery mildew of raspberries, 61; of clover, 347

Present status of stem and bulb nematode in America, 62

Primula, Botrytis cinerea on, 154

PRITCHARD, FRED J., and W. S. PORTE, The relation of temperature and humidity to tomato leaf spot (Septoria lycopersici Speg.), 156–169

Progress, report, on cabbage yellows investigations in Kansas, 24; report on black rot investigations, with special reference to cauliflower on Long Island, 24; in barberry eradication, 40–41; second, report on studies of corn seed germination and the prevalence of Fusarium moniliforme and Diplodia zeae, 45; report upon the resistance of commercial strains of tobacco to root-rot, 51; report on Phytophthora-resistant tobacco, 51–52; first, report on the study of apple scab under Ohio conditions, 60

Projection apparatus, 424–426

Prunus, alleghaniensis, resistance to crown gall, 120; Besseyi, resistance to crown gall, 120; caroliniana, resistance to crown gall, 120; domestica, resistance to crown gall, 120; ilicifolia, resistance to crown gall, 120; insititia, resistance to crown gall, 120; mume, resistance to crown gall, 120; pumila, resistance to crown gall, 120; serotina, resistance to

crown gall, 120; tangutica, resistance to crown gall, 120; umbellata, resistance to crown gall, 120; Botrytis cinerea on, 154

Pseudotsugae taxifolia, host of Polyporus schweinitzii, 588; decayed by Poria incrassata, 119

Publication, of foreign papers, 401–402

Puccinia, amorphae, longevity of uredospores of, 406, 407; antirrhini, 281–287; germination of teliospores of, 281–286; failure of infection of basidiospores on snapdragon, 283–284; coronata, 41; coronata, longevity of uredospores of, 404–407; coronifera, 403, 406; dispersa, 403, 406; graminis, Illinois epidemic of 1923, influence of climate, 94–100; on Poa spp. in the United States, 39; graminis, 403, 406; graminis phleipratensis, timothy resistant to, 363; graminis poae, 39; graminis-tritici, 39; graminis, simultaneous surveys for, 359–362; helianthi, 406; menthae var. americana, longevity of uredospores of, 406–407; rubigo-vera, 403; simplex, 403; sorghi, 47; sorghi, longevity of uredospores of, 405–407

Pyrus, coronaria a host of Phyllosticta solitaria, 558; malus a host of Phyllosticta solitaria, 558–568

Pythiacystis citrophthora, Influence of time and temperature on growth of, 119

QUANJER, H. M., Standardizing of degeneration diseases of potato, 518, 519; Institutions for phytopathology and economic entomology in Holland, 534; Endothia parasitica, 535

Radish, black-root of, 66; host for B. aroideae, 458

RAEDER, J. M., see HUNGERFORD, CHAS. W.

RAMSEY, G. B., Sclerotinia **intermedia** n. sp. a cause of decay of salsify and carrots, 323–327

RANDS, R. D., see HARTLEY, CARL.

Raspberry, blue stem in California, 125; blue stem of, 347, 348; diseases of, 347; leaf curl of, 347; mosaic of, 347; host for Acrostalagmus caulophagus, 347, 348; powdery mildew of, 61; red and black, blue stem of, 347, 348; systemic disorders in the Pacific Northwest, 119

RAWLINS, T. E., and JOHNSON, JAMES, Cytological studies on tobacco mosaic, 55

Recent advances in dusting methods, 121, 122

REDDY, CHAS. S., and J. R. HOLBERT, Experiments to show the effect of certain seed treatments on corn, 44

Red heart rot of balsam, Stereum sanguinolentum, 349, 350

Redtop, Agrostis palustris, host of Ustilago striaeformis, 252

REED, GEORGE M., Varietal susceptibility of wheat to Tilletia laevis Kühn, 437–450

REED, GUILFORD B., A bakery infection with Monilia sitophila, 346; Effects of salt and hydrogen-ion concentration upon the growth and structure of certain bacteria and moulds, 348

Reimer's formula, modification of for pear blight treatment, 478

Relation, of soil temperature and soil moisture to infection by Plasmodiophora brassicae, 25; of temperature and moisture to the development of crown gall, 30; of internal cob-discoloration to yield in corn, 46; of Chenopodium murale to curly-top of the sugar beet, 57

Relative susceptibility of red clover to anthracnose and mildew, 62, 63

Report of plant disease survey for Canada, 1923, 346, 347

Resistance, of Prunus spp. to crown gall, 120; to grape rust, 171; of sorghum varieties to smut, loose and covered, 288; of corn to smut, 268–280; of F_1 crosses, 278; and susceptibility to apple measles, 289

Rheum, Botrytis cinerea on, 154

Rhinanthus, Botrytis cinerea on, 154

Rhizoctonia, results of experiments to prevent, 349; rot on sugar beets, 125; solani, isolated from western yellow blight

of tomatoes, 121; tuliparum (Klebahn) nov. comb. on tulip, 30
Rhizopus, nigricans, 408; tritici, 481
RHOADS, ARTHUR S., Apple measles, with special reference to the comparative susceptibility and resistance of apple varieties to this disease in Missouri, 289–314
Ribes, blister rust on, in Canada, 347; Botrytis cinerea on, 154
RIKER, A. J., Relations of temperature and moisture to the development of crown gall, 30
Root, diseases of sugar cane in Porto Rico, 59; rot and blight of canning peas, 348, 349; rot on sweet pea in California, 125; rot of tobacco, 347; rot of, udo, 124
Rosa, Botrytis cinerea on, 154
ROSE, JESSIE P., Fusarium culmorum in Oregon, its varieties and strains that cause disease of cereals and grasses, 49; Fusarium culmorum var. leteius, a cause of disease in cereals and grasses, 50
ROSE, R. C., see LEACH, JULIAN G.
Rosellinia pruinata, 144
Rot, crown, on sunflower and onion in California, 125; wine grape fruit rot in California, 125
Rubus, Botrytis cinerea on, 154; spectabilis, attacked by Botrytis cinerea, 153, 155
RUMBOLD, CAROLINE, Sugar beet seed disinfection with formaldehyde vapor and steam, 66
Rust, blister, white pine, in the Pacific Northwest, 124; of cowpeas, 67; of grape, in Florida, 170, 171; of snapdragon, 281–287; of wheat, epidemic in Illinois in 1923, climatic influence, 94; resistance in grape varieties, 171; resistance in timothy, 363–371; stem, simultaneous surveys for, 359–362

Salix sp., 140
Salmonberry, attacked by Botrytis cinerea, 153, 155
Salsify, decay of, 323; host for B. aroideae, 458; see Tragopogon porrifolius
Sambucus, Botrytis cinerea on, 154
SANFORD, G. B., Some factors influencing the development of potato scab, 58
Sapin rouge, caused by Stereum sanguinolentum, 349, 350
Scab, on almond in California, 125
SCHMITZ, HENRY, Physiological specialization in Fomes pinicola Fr. (title only), 119
Sclerospora philippinensis, 49
Sclerotinia, sunflower and onion crown rot in California, 125; americana (Wormald) comb. nov. on stone fruits, 31, 32; cinerea, on peach twigs, 427–429; fuckeliana, 154; **intermedia** n. sp., a cause of decay of salsify and carrots, 323–327; libertiana, root-rot on udo, 124; libertiana, on the name, 126, 127; sclerotiorum, On the name, 126, 127
Sclerotium, cepivorum, 26; cepivorum Berk., on Allium, 315–322; delphinii, 31; rolfsii, 37
SCOTT, C. E., Tylenchus dipsaci Kühn on narcissus, 495–502
SEAL, J. L., see LEACH, JULIAN G.
Seasonal development and control of apple scab and cherry leaf spot in relation to environment, 36
Seed, transmission of rootknot nematode resistance in peach, 62; treatment of tobacco, 181; treatment for smut control, 347
Senecio, Botrytis cinerea on, 154
Sepal infection in relation to the seasonal development and control of apple scab, 36
Septoria lycopersici, 156–169
Sereh, 9
SEVERIN, HENRY H. P., Curly leaf transmission experiments, 80–93; (abstract), 123; see BARTHOLOMEW, E. T.
SEWELL, M. C., see MELCHERS, L. E.
SHAPOVALOV, MICHAEL, Effect of environmental conditions on western yellow blight of tomatoes, 120
———, AND J. W. LESLEY, The behavior of certain varieties of tomato to the wilt disease (Fusarium) in California, 121; The behavior of certain varieties

of tomatoes towards Fusarium-wilt infection in California, 188–197

SHEAR, C. L., Grape rust in Florida, 170–171; Publications of foreign papers, 401

SHERBAKOFF, C. D., Common molds of corn seed in relation to yield, 46; Three little known diseases of strawberries, 60

SIDERIS, CHRISTOS P., Species of Fusarium isolated from onion roots, 211–216; The effect of hydrogen-ion concentration on the extracellular pectinase of Fusarium eromyophthoron, 481–489

SIEVERS, F. J., Crop injury resulting from magnesium oxide dust, 108–113

SIMMONDS, P. M., see FRASER, W. P.

Simultaneous surveys for stem rust; a method of locating sources of inoculum, 40

SLAGG, C. M., see JOHNSON, JAMES

SMITH, C. O., The study of resistance to crown gall in Prunus, 120

SMITH, ELIZABETH H., see SMITH, RALPH E.

SMITH, E. H., Some diseases new to California, 125

SMITH, ERWIN F., see ELLIOTT, CHARLOTTE

SMITH, FLOYD F., see WILCOX, RAYMOND B.

EMITH, G. M., see MAINS, E. B.

SMITH, RALPH E., Recent advances in dusting methods, 121

————, AND ELIZABETH H. SMITH, Bacterial slime disease of lettuce, 122

SMITH, R. G., A chemical and pathological study of decay of the xylem of the apple caused by Polystictus versicolor Fr., 114–118

Smut, control, seed treatment for, 347; of oats, control in 1923, 346; of onion, 347; control experiments in hull-less oats during 1923, 350; germination of smut spores of fungus, Ustilago striaeformis, 251; of maize, 268–280; on F_1 crosses, 277–278; percentage of plant and ear infections of selfed strains to, 272; of onion treated with kalimat, 569–574; of onion treated with formaldehyde, 569–574; of sorghum, Sphacelotheca sorghi and S. cruenta, 288

Snapdragon, host of Puccinia antirrhini, 281; rust, 281–287; rust, germination of teliospores of, 281–287; failure of infection of basidiospores of on snapdragons, 283–284; aecial host of not known, 285

Soft-rot studies, 460

Soil, moisture, control of, and soil temperature experiments, 394; temperature, equipment and methods for studying the relation of to diseases in plants, 384–397; temperature, relation to Plasmodiophora brassicae, 25

Solanum, Botrytis cinerea on, 154; esculentum, host for Bacterium tabacum, 177; melongena, host for Bacterium tabacum, 177

Some, factors influencing the development of potato scab, 58–59; new methods and results in the control of lettuce diseases with formaldehyde, 28–29; problems in forest pathology, 345

Sorghum, resistance of varieties of, to smuts, 288

Soya max, 7

Soy bean, mosaic (Mosaic studies IV.), 346; pustule. Comparative studies with Bacterium phaseoli sojense Hedges and Bacterium phaseoli E. F. S., 27–28

SPAULDING, PERLEY, Report of the editor-in-chief, 205, 206; Review of Supplement to Handbook of the Plant Diseases in Japan, Vol. I, pages 1–398, 1923, by Arata Ideta, 341; The tropical plant research foundation, 430–432

Species of Fusarium isolated from onion roots, 211–216

Sphacelotheca, cruenta on sorghum, 288; sorghi, 44; sorghi on sorghum, 288

Sphaeria pruniata, 144

Sphaeropsis malorum of apple and pear, 329–333

Spinacia oleracea, 490

Spinach, Fusarium wilt of, 29

Spore, germination, of Phytophthora infestans, 32–33; germination of Ustilago striaeformis; methods, 253; percentage of germination of fresh spores, 253; materials employed, 253; results of

studies of, 264–265; relation of temperature to germination, 261; isolation, 338
Sporonema, oxycocci on Vaccinium macrocarpum, 102–107
Spot, leaf and stem spot on asparagus in California, 125
Spraying, for control of tomato soft rot, 458; vs. dusting for potatoes, 57–58
Spray injury, 61
Sprays, 61
STAKMAN, E. C., AND M. N. LEVINE, Puccinia graminis on Poa spp. in the United States, 39; see HAYES, H. K.
STAHL, C. F., see CARSNER, EUBANKS
Standardizing of degeneration diseases of potato, 518, 519
Stereum sanguinolentum as the cause of "Sapin Rouge" of red heart rot of balsam, 349, 350
STEVENS, NEIL E., Notes on cranberry fungi in Massachusetts, 101–107
STEWART, F. C., Recommendations for the improvement of official inspection for crown-gall, 172, 173
Stipple-streak, on potato, 519
Stizolobium deeringeanum, 7
STOKDYK, E. A., Progress report on cabbage yellows investigations in Kansas, 24
STONE, R. E., Chestnut blight in Ontario, 345; Root rot and blight of canning peas, 348, 349; see HOWITT, J. E.
STOVER, W. G., AND CURTIS MAY, Studies on apple blotch in Ohio, 60
———, AND H. W. JOHNSON, First progress report on the study of apple scab under Ohio conditions, 60
Strawberry, attacked by Botrytis cinerea, 153; black root, 348; diseases, 60; leaf-scorch, 30
Strophostyles helvola, bacterial blight of bean on, 341
Studies, on Fusarium wilt of spinach in Texas, 29; on predisposition of wheat and corn to seedling blight caused by Gibberella saubinetti, 34; Further, on new seed disinfectants, 43, 44; On the Diplodia disease of corn, 47; of anthracnose infection in cotton seed, 52; on apple blotch in Ohio, 60; on a leaf spot of Phaseolus aureus new to the Philippine Islands, 351–358
Sugar beet, curly top of, 57; seed disinfection with formaldehyde vapor and steam, 66
Sugar cane, diseases of, 59; diseases, 9, 10; sereh, 9; Java gum disease of, identical to leaf scald of Australia, 587; Leaf scald of, 587
Sulphur, as a fungicide and fertilizer for sweet potatoes, 411–423
Summary of investigations on clover rusts, 33
SUMMERBY, R., see DICKSON, B. T.
Sunflower, attacked by wilt, 347; crown rot in California, 125; diseases, 64
Supplement to Handbook of the Plant Diseases in Japan, Vol. I, pages 1–398, 1923, by Arata Ideta, 341
Survey of blister rust infection on pines at Kittery Point, Me., and the effect of Ribes eradication in controlling the disease, 53
Surveys, simultaneous for stem rust, 359
Susceptibility, of species of Allium to onion smut, 26
Sweet pea, root rot in California, 125
Sweet potato, inoculation with soft rot bacteria, 465; use of sulphur as a fungicide and fertilizer for, 411
Syringa vulgaris, disease of, caused by Phytophthora syringae, 503–517; Heterosporium syringae on, 505
Synedrella nodiflora, 492

Tagetes, Botrytis cinerea on, 154
Tags, permanent spirals for, 398
"Take-all" of wheat in Western Canada, 347
Taphrina, aurea, 217; epiphylla, 217; johansonii, 217; rhizophora, 217; sadebeckii, 217; sp., 217; tosquinetii, 217
TAUBENHAUS, J. J., Studies on Fusarium wilt of spinach in Texas, 29; An abortive sporophore of Sclerotium rolfsii, 37
TAYLOR, J. W., see TISDALE, W. H.

TEHON, L. R., AND P. A. YOUNG, Notes on the climatic condition influencing the 1923 epidemic of stem rust on wheat in Illinois, 94–100
Temperature, relations of onion smut, 26; in relation to germination of smut spores, 261; humidity, relation of, to tomato leaf spot, 156–169
TEMPLE, C. E., see JEHLE, R. A.
Tests of dehydrated culture media, 65
The, aecial stage of Hyalopsora aspidiotus (Peck) P. Magnus, 350; behavior of certain varieties of tomatoes towards Fusarium-wilt infections in California, 188–197; effect of hydrogen-ion concentration on the extracellular pectinase of Fusarium eromyophthoron, 481–489; grey bulb-rot of tulips, 30, 31; manner of infection of peach twigs by the brown rot fungus, 427–429; microloop, a rapid method for isolating single spores, 338–340; mosaic disease of Nicotiana glutinosum not distinct from tobacco mosaic, 57; name of the American brown-rot Sclerotinia, 31, 32; pathological anatomy of tissue produced in Abies balsamea following an attack of the spruce budworm, 345; Phytophthora disease of lilac, 503–517; production of substances toxic to plants by Penicillium expansum Link, 238–243; range of toleration of hydrogen-ion concentration exhibited by Fusarium tracheiphilum in culture, 63; rate of spread of wheat foot-rot in tillage plots in Kansas, 41, 42; relation of Chenopodium murale to curly-top of the sugar beet, 57; Tropical Plant Research Foundation, 430–432; use of sulphur as a fungicide and fertilizer for sweet potatoes, 411–423; viability of uredospores, 403–407
Thielavia basicola, Sweet pea root rot in California, 125
Third Pan-American scientific congress, 401; postponed, 535
THOMAS, H. E., Tobacco wildfire and tobacco seed treatment, 181
Three little known diseases of strawberries, 60, 61
Thymus, Botrytis cinerea on, 154
Tilletia, laevis, resistance to, 38; laevis, Kühn, varietal susceptibility of wheat to, 437–450; tritici (Bjerk.) Winter, varietal susceptibility of wheat to, 437–450
Timothy, see Phleum pratense
TIMS, E. C., AND J. C. WALKER, A Fusarium bulb rot of onion, 26
TISDALE, W. B., Progress report on Phytophthora-resistant tobacco, 51
———, AND R. W. LEUKEL, Water and lime-water baths following the formaldehyde seed treatment, 43
———, J. W. TAYLOR, AND R. W. LEUKEL, Further studies on new seed disinfectants, 43
TITUS, E. C., Effect of rogueing on spread of curly top in beets, (title only), 119
Tobacco, diseases of, 10, 50, 51; hollow stalk disease, 466; host plants of Bacterium tabacum, 175–180; wildfire and seed treatment, 181–187; inoculations with soft rot bacteria, 462; mosaic of, 347; root rot of, 347; Phytophthora nicotiana on, 10; wildfire bacteria, overwintering of, 132–139; wilt of, 9, 10, 466
Tomato, bacterial soft-rot of, in Virginia, 451–459; behavior of certain varieties of towards Fusarium wilt in California, 188–197; behavior to wilt disease in California, 121; Disease caused by Phytophthora mexicana, 121; interaction between it and Fusarium lycopersici, 575–579; leaf spot, 156–169; mosaic (Mosaic studies IV), 346, wilt, 28
TORO, RAFAEL A., see COOK, MEL T.
Torula spp., on peach twigs, 227
Toxic, substances produced by Penicillium expansum, 238
Tradescantia, Botrytis cinerea on, 154
Tragopogon porrifolius, attacked by Sclerotinia intermedia, 323–327
Transfer of mosaic disease from red to black raspberries, 55
TRAVERSO, G. B., Note on death of, 199
Triticum compactum, susceptibility to smut, 438; dicoccum, susceptibility to smut, 438; durum, susceptibility to smut, 438; monococcum, susceptibility to smut, 438; polonicum, susceptibility to smut, 438; spelta, susceptibility to smut, 438; turgidum, susceptibility to smut,

438; vulgare, susceptibility to smut, 438
Tropaeolum, Botrytis cinerea on, 154
Tropical plant research foundation, 430, 431
TROST, F. J., see MAINS, E. B.
Tulip, Rhizoctonia tuliparum on, 30
Tulipa, Botrytis cinerea on, 154
Turnip, as host for B. aroideae, 458
Two bacterial diseases of gladiolus, 63, 64
Tylenchus dipsaci, alfalfa stem nematode in California, 125; Kühn on narcissus, 495–502

Udo, see Aralia caudata
UPPAL, B. N., Spore germination of Phytophthora infestans, 32
Uredo, purpurascens, 69; vignae, 69; vitis, 170
Uredospores, viability of, 403–407
Urocystis, cepulae, 26; tritici, 39
Uromyces, appendiculatus, rust of cowpeas, 67; synonymy of, 69; hosts of, 71; appendiculatus, on Phaseolus adenanthus, 71; on P. anisotrichus, 71; on P. atropurpurea, 71; on P. coccineus, 71; on P. disophyllus, 71; on P. lunatus, 71; on P. obvallatus, 71; on P. polystachyus, 71; on P. retusus, 71; on P. vulgaris, 71; caryophyllinus, longevity of uredospores of, 406, 407; pazschkeanus, 69; punctiformis, 69; vignae, 69; vignae luteola, 69; vignicola, 69; striatus, longevity of uredospores, 404–407; vignae and vignae luteola synonyms of Nigredo vignae, 72
Ustilago, hordei, physiological specialization of, 537–557; biologic forms of, 537–557; hot water seed treatment for, 552–554; striaeformis, infection of timothy by the spores of, 244; striaeformis, spore germination of, 251–257; striaeformis, after ripening, 255; striaeformis, viability, longevity of spores and germinability, 256, 257; striaeformis, hosts of, Agrostis palustris, Phleum pratense, Poa pratensis, Dactylis glomerata, 252; zeae, Reactions of selfed lines of maize to, 268–280

Vaccinium, macrocarpum, fungi on, in Massachusetts, 101–107;; Fusicoccum putrefaciens on, 101–107; Glomerella cingulata vaccinii on, 102–107; Phomopsis sp. on, 102–107; Sporonema oxycocci on, 102–107; Guignardia vaccinii on, 102–107; Penicillium spp. on, 102–107; Dematium sp. on, 102–107; Pestalozzia guepini vaccinii on, 102–107; Acanthorhynchus vaccinii on, 102–107; Alternaria sp. on, 102–107; oxycoccus, Fusicoccum putrefaciens on, 107; Acanthorhynchus vaccinii on, 107; sp. attacked by Botrytis cinerea, 153, 154; vitisidaea, Fusicoccum putrefaciens on, 107; Acanthorhynchus vaccinii on, 107
VALLEAU, W. D., Studies on seed infection, ear types, and yield, and the isolation of strains of corn showing specific disease reactions in the germinator, 46
———— and CHARLES HUBBARD, Angular leaf-spot and wildfire infection of tobacco plant beds by spitting, 51
Varietal, resistance of winter wheats to Tilletia laevis, 38, 39; susceptibility among beans to the bacterial blight, 1–7
VAUGHN, DOROTHY LEE, see MIX, A. J.
Verticillium albo-atrum, wilt of udo, 124; sp., Raspberry blue stem in California, 125
Vibrio comma, note on, 348
Vicia, Botrytis cinerea on, 154
Vigna, repens, host for Uromyces vignae, 71; sesquipedalis host for Uromyces vignae, 71; sinensis, 67; lutea, 69; luteola, 69; marginata, 69; repens, 68; sp., 69; strobilophora, 69; vexillata, 68
Viola, Botrytis cinerea on, 154
Vitis, vinefera, rust on, 170, 171; munsoniana, rust on, 171; rotundifolia, 171

WAKEFIELD, ELSIE M., On the names Sclerotinia sclerotiorum (Lib.) Massee, and S. libertiana Fuckel., 126, 127
WALKER, J. C., Occurrence of white rot of Allium (Sclerotium cepivorum Berk.) in Europe and America, 26; White rot of Allium in Europe and America, 315–322; and F. L. WELLMAN, Temperature relations of Urocystis cepulae (Frost), 26; see TIMS, E. C.
WALKER, M. N., Physalis and cucurbit mosaic intertransmissible, 56; The mosaic

disease of Nicotiana glutinosum not distinct from tobacco mosaic, 57; see DOOLITTLE, S. P.

WALTON, R. C., see YOUNG, H. C.

Water, and lime-water baths following the formaldehyde seed treatment, 43; flow interference, measuring, 580–584

Watermelon, leaf mildew in California, 125

WEBBER, H. J., see BARTHOLOMEW, E. T.

WEBER, GEORGE F., Poria cocos developed on tuckahoe found attached to orange tree root, 35; Ephelis mexicana Fr., Balansia hypoxylon (Pk.) Atk. on sandbur (Cenchrus echinatus L.), 66

WEIMER, J. L., A root-rot and wilt of udo, 124

WEIR, J. R., Review of Hosterman, Gustav, Noack, Martin, Lehrbuch der pilzparasitären Pflanzenkrankheiten mit besonderer Berüchsichtigung der Krankheiten gärtnerischer Kulturgewächse, 534, 535

WEISS, FREEMAN, AND C. R. ORTON, Further results in the inheritance of immunity to potato wart, 59

WELCH, D. S., A sclerotial disease of cultivated Delphinium, 31

WELLES, COLIN G., Studies on a leaf spot of Phaseolus aureus new to the Philippine Islands, 351–358

WELLMAN, F. L., see Walker, J. C.

Western yellow, blight of tomatoes, 120, 121; pine, self-pruning, 336, 337

WESTON, Wm. H., JR., see Craigie, J. H.

Wheat, bunt investigations in Kansas, 37; foot-rot of, 34; glume spot caused by Nigrospora javanica, 13; resistant to mildew, Erysiphe graminis, 48; smut, an early treatment for, 198, 199; seed treatment for, 347; take-all in western Canada, 347; varietal susceptibility to Tilletia laevis and Tilletia tritici, 437–450

WHETZEL, H. H., the National Southeastern University of Nanking, China, 244

———, AND ARTHUR, JOHN M., The grey bulb rot of tulips, 30

WHITE, R. P., Tomato wilt, 28; Loss of strength of mercuric chloride solutions used for treating potatoes, 58

White pine, blister rust in Canada, 347; blister rust investigations of, in Pacific Northwest for 1922, 124

White rot, of Allium in Europe and America, 315–322

WILCOX, RAYMOND B., AND FLOYD F. SMITH, Transfer of mosaic disease from red to black raspberries, 55

Wildfire, of tobacco and tobacco seed treatment, 181–187; of tobacco in New England, 132–139; host plants of, 175–180

Wilt, alfalfa, water flow interference by, 580–584; of sunflower, 347; of udo, 124

Wind dissemination of aeciospores of Cronartium ribicola Fischer, 52, 53

WINGARD, S. A., Bacterial soft-rot of tomato, 451–459

Witches' broom, of potatoes in the Northwest, 372–383

WOLF, FREDERICK A., Strawberry leaf-scorch, 30; see LEHMAN, S. G.

WYLIE, ROBERT B., Wound healing of mesophytic leaves, 53, 54

Wound healing of mesophytic leaves, 53, 54

Yautia, Sclerotium disease of, 29

YOUNG, H. C., Colloidal sulphur as a spray material, 61;

———, AND R. C. WALTON, Spray injury, 61

YOUNG, PAUL A., Red plum curl (caused by Exoascus mirabilis Atk.), 126; see TEHON, L. R.

YOUNG, W. J., An investigation of clover root rot, 63

Zantedeschia, Botrytis cinerea on, 154

Zea mays L., Puccinia sorghi on, 405; Ustilago zeae on, 268–280

Zebrina, Botrytis cinerea on, 154

ZELLER, S. M., Mosaic and other systematic disorders of raspberries in the Pacific Northwest (title only), 119; Decay of Douglas fir due to Poria incrassata, 119; Mosaic disease of loganberry, 119; Sphaeropsis malorum and Myxosporium corticola on apple and pear in Oregon, 329–333

Zinc iodide as disinfectant in pear blight control, 480

Zinnia, Botrytis cinerea on, 154